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ABSTRACT

Ethnography may be used to inform the audience of a curriculum program with the activities of the educators and students involved. Thus the expository function of evaluation is best met by ethnography. A conceptual model developed at the Central Midwestern Regional Educational Laboratory incorporates ethnographic data and techniques into curriculum evaluation. The model uses three dimensions: data, including scale measures, questionnaire responses, and participant observation; the role of the evaluation--which is either to evaluate a completed program or to evaluate a program in progress so that the results of evaluation may be used to modify the program, which is then re-evaluated; and, the focus of investigation, which is on student, mediator, or material. The mediator is usually the classroom teacher. The model establishes the parameters of evaluation, and specifies and integrates three different approaches to evaluation. The ethnographic data may also serve as a source of new hypotheses and substantive theories. (JM)

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Educational Ethnology and Evaluation[1,2]

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The purpose of this presentation is quite simple: to explore with you the utilization of ethnography in curriculum evaluation. The subject is, I think, entirely appropriate both in terms of the nature of this symposium and, more generally, in terms of the current interest in evaluation at large.[3]

In the brief amount of time allotted, I would like to touch lightly on the following issues: (1) some current thinking about the technology of evaluation; (2) a rationale for including ethnology in that newly emerging technology; (3) a brief description of an initial evaluation model which incorporates ethnology; (4) the utilization of that model in two recent CEMREL projects; and (5) some observations on the heuristic values of ethnology in evaluation studies.

In the last few years there has been an increasing awareness that current curriculum evaluation technologies are both conceptually and operationally inadequate for the task at hand. Robert Stake (1967), in his introduction to Perspectives of Curriculum Evaluation, states bluntly, "New techniques of observation and judgment need to be developed. In fact, we need a new technology of educational evaluation. (p. 3)." A few paragraphs later he suggests what this new technology might be. "Our guess," he says, "is that this technology will draw from instructional technology, psychometric testing, social-survey technology, communications technology, and others (p. 4)." While Stake does not explicitly mention ethnography, it is implicit

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[1]Portions of the work reported herein are from programs of the Central Midwestern Regional Educational Laboratory, Inc., a private non-profit corporation supported in part as a regional educational laboratory by funds from the United States Office of Education, Department of Health, Education, and Welfare. The opinions expressed in this publication do not necessarily reflect the position or policy of the Office of Education, and no official endorsement by the Office of Education should be inferred.

[2]Paper presented at the AERA symposium: Anthropological Approaches in Educational Research in Minneapolis, March 2-6, 1970.

[3]As two indicators of this current interest, note the recent AERA monograph series on curriculum evaluation, and the publication of the 1969 Yearbook of the National Society for the Study of Education, Educational Evaluation: New Roles, New Means. Chicago: University of Chicago Press, 1970.

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in both his stress on "techniques of observation" and his subsequent statement of the purpose of evaluation. Again he writes:

> The purpose of educational evaluation is expository: to acquaint the audience with the workings of certain educators and their learners . . . A full [his italics] evaluation results in a story, supported perhaps by statistics and profiles. It reveals perceptions and judgments that different groups and individuals hold--obtained, I hope, by objective means. As a bonus, it may offer generalizations ("The moral of the story is . . .") for the guidance of subsequent educational programs. (p. 5)

If this is an acceptable statement of purpose, then I believe the educational ethnographers can make a substantial contribution to curriculum evaluation. By training and inclination the ethnologist is in a unique position to tell a "story." His field of vision is wider than the psychometrician's; his contacts--informants if you will--are likely to provide data more valid than that obtained via questionnaire or a brief interview; his extensive, time-consuming field work, whether in Micronesia, Blackfish Village, or Appalachia, may, either serendipically or in Malinowski's "foreshadowed problems" sense, reveal significant but overlooked variables at work and thus provide insights into the nature of a given curriculum that more traditional methodologies might well miss. This is a large claim, and one that many would dispute. Nonetheless, I think it is a claim that can be substantiated. Perhaps a few excerpts from the field notes taken one morning during our Computer Assisted Instruction (CAI) program might indicate how this claim can be justified.

> 8:30 Arrived at the school about 8:30. Stopped into the school office and asked the secretary if she would make a list for me of the boys and girls in grades 1-6 . . .
>
> 8:32 Dashed up to the teletype room. The machines were all clattering away at great speed, but Miss Jane [system monitor] was not there.
>
> 8:33 Went down to the opposite end of the building to visit the second grade class. On the way I met the third grade teacher and we chatted briefly . . . Miss Jane came by as we talked to get the first graders . . .
>
> 8:36-9:32 Observed second grade math class . . .
>
> 9:32-9:40 Chatted with teacher.
>
> 9:40 I went back up to the teletype room to watch the second graders as they were working on the teletypes. [Long list of names, drill numbers, percent correct, and times follow.]

Some observations on the actions of the second graders: I noted particularly that Billy H. was very nervous. As the teletype would type out the problem he would literally bang his hand on the side of the teletype. He was constantly in motion.

. . . .

Sam and Morgan were consistent finger counters

. . . .

Gail was a constant verbalizer. On first seeing a problem like 3 + 6 = 1 + _, her comment was, "Oh, no. I can't do these." Then she verbalized the problem as "3 + 6 = 9 take away 1 is 8."

. . . .

Two other chatterboxes were Ricky and Ellen. Part of their constant chatter went as follows:

Ricky: You and me go crazy on these computers.
Ellen: I love to do these.
Ricky: I love this, Ellen.
Ellen: Me too.

. . . .

Talked a bit with Miss Jane re the daily report and what happened to it. She told me they were "filed away."

. . . .

10:30 Observed third grade math lesson.

. . . .

11:09 Back in the teletype area. The machines are not running due to system malfunction. Miss Jane has just received a phone call from one of the other schools that indicates the system has not been running for the last 25 minutes . . . She has had to restart the machine four times this morning . . . . Looked at one child's printout. Many machine errors. Child was quite shaken.

. . . .

11:58-1:05 Observed fifth grade math class.

1:08 Checked teletype area. No one there. Checked for list with school secretary. Not ready. Left school.

Even this brief account indicates the rich and varied data available to the ethnologically oriented evaluator. The three classroom visits afforded an opportunity to observe how and to what degree the CAI program was integrated into the normal mathematics lesson. Talking with the teachers gave some insight into their feelings about the program. Watching the children at the teletypes revealed psychological aspects of the program, such as emotionality and anxiety, as well as some social dimensions. "Hard" data on student performance in terms of time taken to complete a drill and percentage scores were obtained. Some indices of student

attitudes were also obtained. Certain administrative and operational aspects of the program were observed, e.g., the filing of the daily report, the communications network between schools, the internal scheduling, equipment breakdowns, and the like. All of this and more provides the raw materials for that "full story"--the plot, the setting, the characters, and the point of view--that Stake calls for in a "full" evaluation. In short, I would argue that ethnology can make a contribution both to the emerging science of evaluation, and if the ethnologist's account "reads like a novel," as some have reacted to one of our recent efforts, it might well be taken as a compliment!

Yet the ethnologist, at least in Stake's view of things, is not a solo performer in the new technology of evaluation. Few investigators are equipped to carry out simultaneously the multiple facets of a "full" evaluation. Even granted the ability of a given individual to perform such a task, the magnitude of most large scale evaluations prohibits this. Clearly, what is needed is a conceptual model, or models, of evaluation (Scriven, 1967), the technologies to be utilized, the focus of investigation, and the like. The initial outlines of such a model have been developed at the Central Midwestern Regional Educational Laboratory (CEMREL) under the leadership of Howard Russell and Louis Smith. While it was developed specifically for CEMREL's Computer Assisted Instruction (CAI) evaluation, it seems to have a good deal of generalizability. This model is shown in Figure 1.

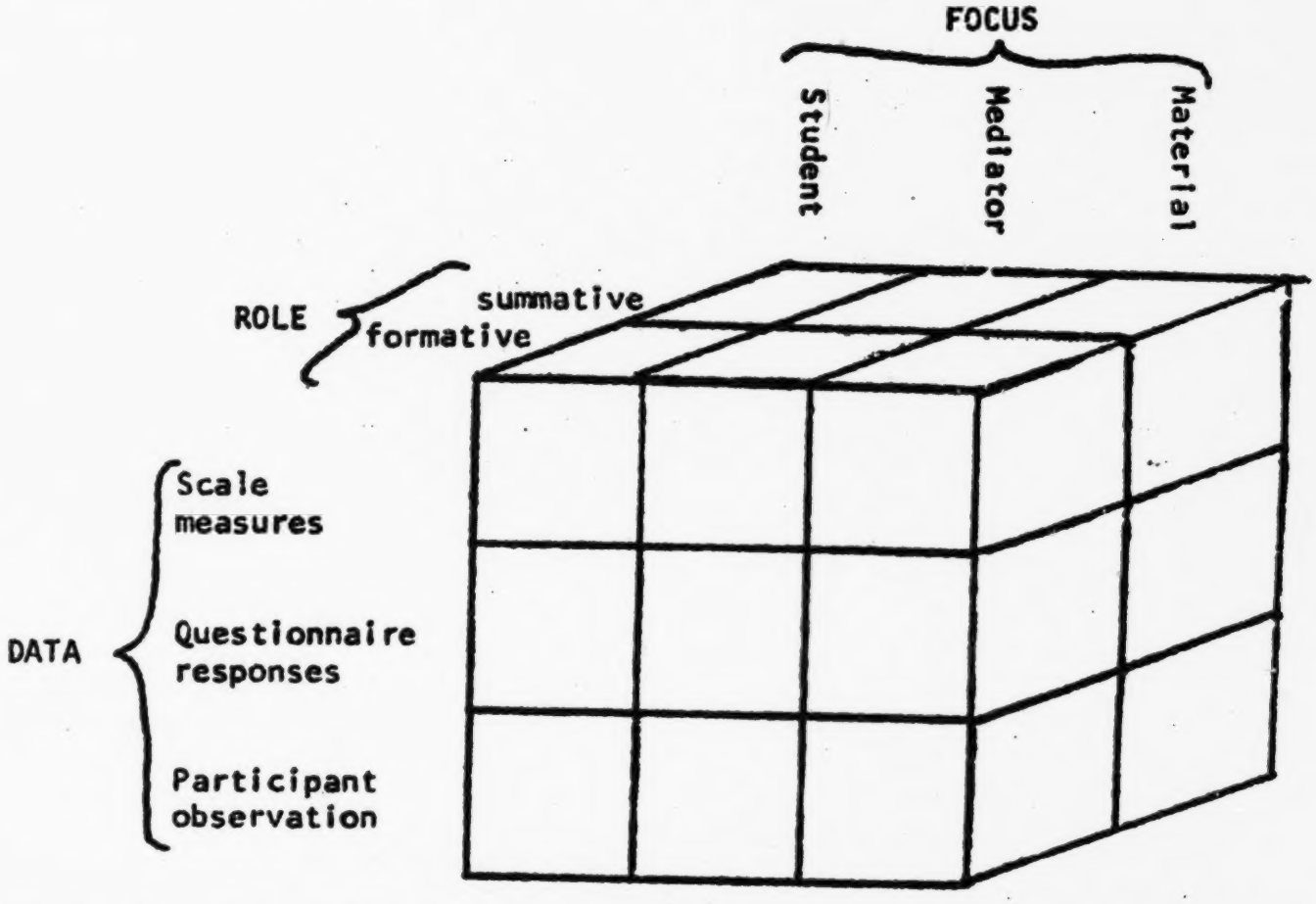

Figure 1 The CEMREL Evaluation Model

Time does not permit even a moderate discussion of the model now. Let me say simply that it has both recognizable weaknesses and virtues. Clearly, it establishes the parameters of the evaluation. Even more important in Russell's words:

> Perhaps the most significant feature of the CEMREL Evaluation Model is the separation and integration of the three different perspectives in evaluating CAI. Where the perspectives converge on a situation and produce data that are mutually reinforcing, the resulting conclusions have increased credibility and increased validity. In cases where the differing perspectives converge on the same situation and the resulting data are mutually contradictory, there is even greater value in the results. Under such circumstances, apparently valid conclusions are seen to be invalid and apparently credible statements are seen to be not so credible. It is under such circumstances that the knowledge base increases or becomes firmer as a result of the evaluation activities. (1969, p. 11)

Perhaps two brief examples from the CAI evaluation will illustrate the potency of Russell's remarks, and at the same time illustrate the vitality of ethnology in such studies. In the overall design, provision was made for pupil, parent, and teacher attitude inventories as they related to CAI. Without going into detail, one of the findings was that in general teacher favorability toward CAI decreased over time. As nonparticipant observers, our own frequent contacts with teachers corroborated this. In this sense we were obtaining "converging perspectives" and data that was "mutually reinforcing." In addition, however, we were able to document the more subtle nuances of change, the reasons for change, and the intensity of feeling. Moreover, in our own free-wheeling style, we were able to obtain similar though frequently contradictory attitude indices from a wider sample of respondents: principals, superintendents, State Department officials, Title III agency personnel, and the like. This is to say--again--that the ethnologist may gain a more comprehensive view of the totality of a project, a perspective that may be highly important for school administrators contemplating the adoption of a particular innovation.

A second example revolves around the "hard" data amassed through achievement tests. Again, without going into detail, the basic experimental design was a sophisticated pretest-treatment-posttest design utilizing randomly selected experimental and control groups within classes plus secondary control groups from classes where CAI was not used at all. In brief, while the results of the testing showed significant and positive effects on classes <u>as a whole</u> that utilized CAI, no significant differences were found between the experimental and control groups within classes. As non-participant observers we were able to offer at least a partial explanation for this somewhat surprising and disappointing finding. Our Field

Notes from classroom observations indicated clearly that in many instances "mediators," in this case teachers primarily, were confounding the design by using the CAI printouts for whole class instructional purposes, permitting a manual containing the drill exercises to be used freely by all students as a supplementary workbook, by publicly displaying printouts in the classrooms, and the like. However, in addition to providing data which clarified the results of the achievement tests, our data shed light on a larger and more general research issue; namely, the extent to which control can be exercised over teacher behavior in experimental classrooms.

All this is not to say that the ethnologist's role in evaluation studies is legitimate only to the extent that it provides supportive, contradictory, or explanatory assistance to the more customary methodologies. On the contrary, it has its own independent function of raising issues essential to that "full story" that other technologies are ill-equipped to handle. Again, in our CAI study, as nonparticipant observers, we were able to document the impact of such variables as the cultural setting, political maneuvering, precarious funding, decision-making processes, technical and administrative complexities, and the like. It seems to us that if evaluation is "the discovery of the nature and worth of something (Stake & Denny, 1969, p. 370)," all these are issues of considerable importance, particularly to potential adopters.

While the CAI evaluation was summative in nature, our current involvement with CEMREL's Comprehensive School Mathematics Program (CSMP) is formative. This is a new experience for us, and there are few guidelines to follow.

The basic evaluation design follows the model previously depicted in Figure 1. A CSMP staff member serves as "in-house" evaluator, concentrating primarily on psychometrics. Dr. Smith and I are again engaged in participant observation, and in the absence of a survey specialist, all three of us have gathered questionnaire data.

One of the areas of particular interest to us in this project is the exploration of the dynamics of ethnography in formative evaluation. We are concerned about such issues as the nature and form of feedback appropriate to a development project, the timing of feedback, the personnel to whom it should be addressed, and, most important, exploring ways to avoid the ever-present dangers of cooptation. While the threat of cooptation lurks in the background of many extended investigations, it poses special problems for the ethnographer who in a fundamental way depends upon close personal relationships with those whom he works.

In our current work with CSMP we have adopted the following general procedures: (1) field work, that is, intensive classroom observations of the pilot trials, discussions with teachers, writers, and other staff personnel, and attendance at staff meetings; (2) on the basis of such field observations, writing a series of memoranda on selected critical issues and submitting them to the appropriate CSMP staff members for their consideration; (3) meeting formally with the CSMP staff at a subsequent date

to discuss issues raised in the memos. A concrete example might help to make this procedure clearer.

One of the stated goals of the CSMP project is: "To develop suitable in-service and pre-service teacher training programs in connection with the individualized [CSMP] curricula (Kaufman & Steiner, 1969, p. 319)." The initial step in accomplishing this goal was a two-week summer workshop for instructional personnel who would be "piloting" the CSMP materials in their classrooms during the 1969-70 school year. As participant observers we attended the sessions, took part in the activities, and became acquainted with the materials and personnel. Following the workshop we prepared a report (Pohland & Smith, 1969) and submitted it to CSMP. The contents of that report can be inferred reasonably well from these excerpts from the introduction:

> The third aspect of the plan of the paper is the development of a mechanism for formative evaluation proceeding from a participant observer stance. We present a brief account of the summer workshop, a 'descriptive narrative' based upon our field notes. As much as possible, this will minimize conceptual analyses, will summarize any comparisons to implicit or explicit criteria, and will minimize suggestions for future actions. In this way a concrete image of the program will be developed. Later, we will make less tentative analytic and evaluative comments.
>
> Then, we plan to back away from the CSMP workshop and implement a next step in a conception of formative evaluation. We propose first of all to look at some of the extant literature on workshops. In doing so, we will be particularly concerned with three issues: (1) how are workshops uniquely defined as types of in-service training programs; (2) what are the principal components that have been identified; and (3) what is the theoretical rationale underlying workshops. Such a conceptual analysis should generate a number of ideas for reconsidering the prior descriptive data.
>
> Next, we wish to describe and analyze several workshops in which we have been involved as participants or as observers. Using the conceptual stance developed earlier on these concrete materials should enhance the generation and evaluation of alternative approaches available to curriculum and teaching workshops such as the one generated by CSMP. While this contains some hazards, we think it contains a most important element of 'constructive' formative evaluation.
>
> Since most of the workshops to which we have addressed ourselves have included a major instructional component, we digress briefly to outline a number of instructional strategies which seem relevant for specific purposes and situations.

> Finally, we plan to reconceptualize workshops and, in the process, develop a social systems model applicable to workshops, which, in conclusion, will contain some comments of the nature of temporary systems.

Subsequent to submitting the report, we met with key CSMP staff members for discussion. As the conversation proceeded, as future plans and alternatives were raised, discussed, modified, accepted or rejected, it seemed to us that we were mutually engaged in formative evaluation in the best sense.

A fifth issue that I would like to raise is what might be called the heuristic value of participant observation. As we have argued elsewhere (Smith & Pohland, 1969), our preference is to use the raw observational data as the source of hypotheses. These we attempt to link into axiomatic chains (Zetterberg, 1965) and, in effect, construct miniature substantive theories. Such propositional theories can then be tested by laboratory or field experiments.[4]

Again let me draw on the CAI study for an illustration of what might be done. As we observed the children working at the teletypes, talked with them, and listened to them talking among themselves, we became aware of the intensely competitive behavior that the program generated. The elements leading to competitiveness seemed to be threefold: the number of drills completed in a day, the score, and the time taken. These three elements were found singly or in combination. For example, one of many similar episodes we recorded in our Field Notes thus:

> Guy, L 602045, 100% in 62 seconds. He talks to Karl re his time and indicates, "You gotta beat it." Karl, L 602035, groans with his first error. (5/29)

We further noticed that while this type of behavior was visible in widely dispersed areas of the country, yet it seemed to be localized in particular schools within a region and still more narrowly, only in certain classrooms within a school.

On the basis of these observations a number of tentative research possibilities are suggested. One might be a series of experimental studies in which, on the basis of carefully formulated hypotheses, the time and score variables might be manipulated in order to assess their relative competition invoking weights. A second series of social psychological studies might be initiated to discover which variables are responsible for the high competitiveness in some settings but not in others. A

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[4]An excellent example of this research chain is the Smith & Kleine (1969) Teacher Awareness study which tested hypotheses generated earlier by Smith & Geoffrey (1968) in their study of an urban classroom.

third series might be designed to assess the impact of a competition evoking curriculum on personality development.

We would urge this type of follow-up study for two reasons. First, it seems reasonable to us that from the results of such studies curriculum developers would be in a more knowledgeable position to make decisions. Secondly, if the ethnographer can do more than simply tell a story and use his data to construct testable "grounded theory" in the Glaser and Strauss (1967) sense, then his work assumes theoretical as well as practical significance. In so doing, he can counter Scriven's (1967) indictment:

> It is difficult to avoid the conclusion, however, that most process research of this kind in education, as in psychotherapy (though apparently not in medicine), is fruitful at neither the theoretical nor the applied level. (p. 50)

That remains an everpresent and continuing challenge to our efforts.

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